

AMENDMENTS TO THE CLAIMS

1. (currently amended) A method for inhibiting a Th2 cytokine and/or inducing a Th1 cytokine, comprising administering to a subject in need thereof an effective amount of [[a]] an isolated CpG oligodeoxynucleotide represented by the following formula, wherein said oligonucleotide has the sequence of SEQ ID NO:1:

[formula] SYSSACGTTSNYRAWMYTC (SEQ ID NO. 1)

wherein, S is G or C; Y is C or T; N is any one selected from the group consisting of A, G, T and C; R is G or A; W is A or T; and M is A or C, and wherein the CpG oligodeoxynucleotide comprises at least two unmethylated CpG motifs.

2. (original) The method according to claim 1, wherein the Th2 cytokine is IL-4 or IL-10.

3. (original) The method according to claim 1, wherein the Th1 cytokine is IL-12 or IFN- γ .

4. (original) The method according to claim 1, wherein the YS or YR dinucleotide in the formula is CG.

5. (original) The method according to claim 1, wherein the CpG oligodeoxynucleotide has any one nucleotide sequence selected from the group consisting of SEQ ID NOs. 2-8.

6. (original) The method according to claim 1, wherein the CpG oligodeoxynucleotide has a phosphodiester or phosphorothioate backbone.

7. (currently amended) A method for stimulating an immune response, comprising administering to a subject in need thereof an effective amount of [[a]] an isolated CpG oligodeoxynucleotide represented by the following formula, wherein said oligonucleotide has the sequence of SEQ ID NO:1:

[formula] SYSSACGTTSNYRAWMYTC (SEQ ID NO. 1)

wherein S is G or C; Y is C or T; N is any one selected from the group consisting of A, G, T and C; R is G or A; W is A or T; and M is A or C, and wherein the CpG oligodeoxynucleotide comprises at least two unmethylated CpG motifs.

8. (original) The method according to claim 7, wherein the YS or YR dinucleotide in the formula is CG.

9. (original) The method according to claim 7, wherein the CpG oligodeoxynucleotide has any one nucleotide sequence selected from the group consisting of SEQ ID NOs. 2-8.

10. (original) The method according to claim 7, wherein the CpG oligodeoxynucleotide has a phosphodiester or phosphorothioate backbone.

11. (currently amended) A method for treating or preventing a skin disease selected from the group consisting of inflammatory skin disease and skin disease associated with a Th2 immune response, comprising administering to a subject in need thereof an effective amount of [[a]] an isolated CpG oligodeoxynucleotide represented by the following formula, wherein said oligonucleotide has the sequence of SEQ ID NO:1:

[formula] SYYSACGTTSNYRAWMYTC (SEQ ID NO. 1)

wherein S is G or C; Y is C or T; N is any one selected from the group consisting of A, G, T and C; R is G or A; W is A or T; and M is A or C, and wherein the CpG oligodeoxynucleotide comprises at least two unmethylated CpG motifs.

12. (original) The method according to claim 11, wherein the YS or YR dinucleotide in the above formula is CG.

13. (original) The method according to claim 11, wherein the CpG oligodeoxynucleotide has any one nucleotide sequence selected from the group consisting of SEQ ID NOs. 2-8.

14. (currently amended) The method according to claim 11, wherein the CpG oligodeoxynucleotide has a phosphodiester or phosphorothioate backbone.

15. (original) The method according to claim 11, wherein the skin disease is selected from the group consisting of atopic dermatitis, allergic skin disease, viral skin disease and skin cancer.

16. (currently amended) A composition for treating or preventing a skin disease, comprising [[a]] an isolated CpG oligodeoxynucleotide represented by the following formula, wherein said oligonucleotide has the sequence of SEQ ID NO:1, as an active ingredient:

[formula] SYYSACGTTSNYRAWMYTC (SEQ ID NO. 1)

wherein S is G or C; Y is C or T; N is any one selected from the group consisting of A, G, T and C; R is G or A; W is A or T; and M is A or C, and wherein the CpG oligodeoxynucleotide comprises at least two unmethylated CpG motifs.

17. (currently amended) A composition for stimulating an immune response, comprising [[a]] an isolated CpG oligodeoxynucleotide represented by the following formula, wherein said oligonucleotide has the sequence of SEQ ID NO:1, as an active ingredient:

[formula] SYYSACGTTSNYRAWMYTC (SEQ ID NO. 1)

wherein S is G or C; Y is C or T; N is any one selected from the group consisting of A, G, T and C; R is G or A; W is A or T; and M is A or C, and wherein the CpG oligodeoxynucleotide comprises at least two unmethylated CpG motifs.

18-19. (canceled)

20. (new) The method of claim 11, wherein said skin disease is an inflammatory skin disease.

21. (new) The method of claim 11, wherein said skin disease is caused by an abnormal balance of Th1/Th2 immune responses.